What is claimed is:

1. A radiation image storage panel comprising a support sheet and a phosphor layer formed on a surface of the support sheet by vapor-accumulating method, wherein the phosphor layer comprises prismatic crystals of phosphor aligned in the same direction, and each of the crystals has a convex surface at one end.

2. The radiation image storage panel of claim 1, wherein the phosphor is stimulable phosphor.

3. The radiation image storage panel of claim 2, wherein the crystal has a convex surface at the end not facing the surface of the support.

4. The radiation image storage panel of claim 2, wherein the support is a transparent support, and the crystal has a convex surface at the end facing the surface of the support.

5. The radiation image storage panel of claim 1, wherein the convex surface is a spherical surface.

6. The radiation image storage panel of claim 1, wherein the prismatic crystals of phosphor are aligned perpendicularly to the surface of the support.

7. A process for preparing a radiation image storage panel of claim 3, comprising applying electron beams to a stimulable phosphor source to vaporize the phosphor source and depositing the vapor of the phosphor source on the surface of the support, in which the electron beams are gradually reduced in their energy just before the deposition is complete.

8. A process for reading radiation image information comprising the steps of:

moving in one direction the radiation image storage panel of claim 3 on which radiation image information is recorded and stored, in relation to a line sensor which comprises plural photoelectric converting elements arranged linearly and which is placed over the convex surfaces of the aligned prismatic phosphors of the storage panel on a line extending from the end of the convex surface of the aligned prismatic crystal in the same direction, under such condition that the line sensor moves on a plane parallel to the storage panel, while the phosphor layer of the storage panel is scanned with stimulating rays in a direction which is different from the direction of the movement of the storage panel and the stimulating lays are applied onto the phosphor layer approximately parallel to the aligning direction of the prismatic phosphor crystals in the phosphor layer;

detecting an emission emitting from the phosphor layer of the storage panel by the line sensor, so as to photoelectrically convert the emission to an electric signal;

detecting an electric signal of the movement of the storage panel in relation to the line sensor;

and

comparing the signal of the emission and the signal of the movement of the storage panel to produce a radiation image information in the form of electric signals.

9. The process of claim 8, wherein the prismatic crystals of phosphor in the phosphor layer of the radiation image storage panel are aligned perpendicularly to the surface of the support.

10. A process for reading radiation image information, comprising the steps of:

moving in one direction the radiation image storage panel of claim 4 on which radiation image information is recorded and stored, in relation to a line sensor which comprises plural photoelectric converting elements arranged linearly and which is placed below the support of the storage panel on a line extending from the end of the convex surface of the aligned prismatic crystal in the same direction, under such condition that the line sensor moves on a plane parallel to the storage panel, while the phosphor layer of the storage panel is scanned with stimulating rays in a direction which is different from the direction of the movement of the storage panel and the stimulating lays are applied onto the phosphor layer approximately parallel to the aligning direction of the prismatic phosphor crystals in the phosphor layer;

detecting an emission emitting from the phosphor layer of the storage panel by the line sensor, so as to photoelectrically convert the emission to an electric signal;

detecting an electric signal of the movement of the storage panel in relation to the line sensor;

and

comparing the signal of the emission and the signal of the movement of the storage panel to produce a radiation image information in the form of electric signals.

11. The process of claim 10, wherein the prismatic crystals of phosphor in the phosphor layer of the radiation image storage panel are aligned perpendicularly to the surface of the support.